

**Notice of Allowability**

Application No.

09/856,179

Examiner

Ayal I. Sharon

Applicant(s)

NISHI, YASUKAZU

Art Unit

2123

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 09/19/05.
2. ☒ The allowed claim(s) is/are 1-4.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 9/19/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

## **DETAILED ACTION**

### ***Introduction***

1. Claims 1-4 of U.S. Application 09/856,179, with a 371 date of 08/06/2001, have been presented for examination. The application is a 371 of PCT/JP00/04834, filed on 07/19/2000, which claims priority to Japanese application 2000-003496, filed on 01/12/2000.

### ***Examiner's Statement of Reasons for Allowance***

2. Claims 1-4 are allowed.
3. The following is an examiner's statement of reasons for allowance for claims 1-4.
4. In regards to the issue of whether the claims are statutory under 35 U.S.C. § 101, Examiner has reviewed the claims, and found that they produce a concrete useful, and tangible result: a display of a load propagation displacement of a physical body. Therefore, the claims are not directed to an abstract idea, and are statutory. See MPEP §2106 (A), and *In re Warmerdam*, 33 F.3d 1354, 1360, 31 USPQ2d 1754, 1759 (Fed. Cir. 1994). See also *Schrader*, 22 F.3d at 295, 30 USPQ2d at 1459.
5. The prior art referred to in this Reasons for Allowance is as follows:
  - a. English translations of Nishi, Yasukazu et al., "Structural Analysis Based on Multiple Agents." July 29, 1999. (Henceforth referred to as "Nishi").

- b. Drashansky, T. et al. "Networked Agents for Scientific Computing."  
Communications of the ACM. March 1999. Vol.42, Issue 3, pp.48-54.  
(Henceforth referred to as "**Drashansky**").
  - c. Bieniasz, S., et al. "Agent-Based Simulation in Finite Element  
Environment." Conf. Proc. Management and Control of Production and  
Logistics (MCPL 2000). July 5-8, 2000. (Henceforth referred to as  
"**Bieniasz**").
6. In the previous Office Action, the Examiner applied 35 U.S.C. § 102(b) rejections of the claims based on the Nishi reference. The Applicant correctly points out in his response of 09/19/2005 that based on the foreign priority date of the Japanese Application 2000-003496, filed on 01/12/2000, the rejections should have been 35 U.S.C. § 102(a) rejections.
7. In regards to the joint authorship of the Nishi reference, the applicants submitted a "Katz" declaration under 37 C.F.R. § 1.132 on 09/19/2005. This declaration states that Mr. Nishi was the sole inventor of the subject matter in the article. Examiner finds that this declaration conforms to the requirements specified in MPEP § 2132.01, *In re Katz*, 687 F.2d 450, 215 USPQ 14 (CCPA 1982), and *Ex parte Kroger*, 219 USPQ 370 (Bd. Pat. App. & Int. 1982).
8. The rejections based on the Nishi reference have been withdrawn.
9. The Drashansky article teaches the general use of what it calls "SciAgents" (see p.52 and Fig.2). It defines each SciAgent as a "black box" that interacts with other SciAgents via an interagent language, and are analogous to the agents in

the instant application. Fig.2 of the reference shows how these SciAgents are used to solve a problem that has four different sub-domains, each with represented by a different set of partial differential equations (PDEs).

On the other hand, Drashansky does not expressly teach the following specific limitations of claims 1 and 3, which correspond to a specific set of equations and conditions set for the agents:

(i) with regard to a direction of the load, a predetermined load in accordance with a material property thereof is transmitted to an upper face and a lower face of the physical body in the load direction, a predetermined load in accordance with a strain characteristic of the physical body is transmitted to a face orthogonal to the load direction, and a load which undergoes the predetermined displacement constraint is transmitted to an upper face in the load direction of either one material agent contiguous to another material agent,

(ii) with regard to the load, in the boundary agent formed in the boundary which does not undergo the displacement constraint, a load having a value the same as a value of the load from contiguous material agent in the load direction is transmitted, and

(iii) in the boundary agent formed in the rigid physical body which undergoes the displacement constraint, with regard to the load from the contiguous material agent, a load having a value the same as a value of the load is transmitted in a direction reverse to a direction of the load to thereby display the load propagation displacement of the physical body.

10. The Bieniasz article is similar to the claimed limitations in that it teaches the use of multiple independent agents in a finite element model simulation. Unlike the claimed invention, the Bieniasz article simulates heat transfer propagation rather than physical load propagation. Moreover, the Bieniasz article is dated July 5-8, 2000, and therefore does not qualify as prior art because it does post-dates the

foreign priority date of the Japanese Application 2000-003496, filed on 01/12/2000.

11. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

12. The following prior art, made of record and not relied upon, is considered pertinent to applicant's disclosure.
13. Grochowski, M. et al. "An Agent-Based Approach to a Hard Computing System – Smart Solid." Proc. Int'l Conf. on Parallel Computing in Electrical Engineering. (PARELEC '02). 2002. pp.253-258. (Teaches "Parallel Mesh Generation" and "Agent Division Strategy", but does not qualify as prior art due to the 2002 date.)
14. Cetnarowicz, K. et al. "Functional Integrity of MAS through the Dynamics of the Agents' Population." Proc. Int'l Conf. on Multi-Agent Systems 1998. July 3-7, 1998. pp.405-406. (Teaches the use of Multi-Agent Systems, but not specifically for finite element analysis.)
15. Zabinska, M. et al. "Simulation Systems with Decentralized Knowledge Bases: Process of Agents' Orientation in Environment." 1996. (Teaches the use of Multi-Agent Systems, but not specifically for finite element analysis.)

16. Cetnarowitz, K. "Agent Oriented Technology Based on the M-Agent Architecture." June 13, 2000. (Teaches the use of Multi-Agent Systems, but not specifically for finite element analysis. Post-dates the foreign priority filing date of the instant application).

***Correspondence Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ayal I. Sharon whose telephone number is (571) 272-3714. The examiner can normally be reached on Monday through Thursday, and the first Friday of a biweek, 8:30 am – 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached at (571) 272-3749.

Any response to this office action should be faxed to (571) 273-8300, or mailed to:

USPTO  
P.O. Box 1450  
Alexandria, VA 22313-1450

or hand carried to:

USPTO  
Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314


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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Tech Center 2100 Receptionist, whose telephone number is (571) 272-2100.

Ayal I. Sharon

Art Unit 2123

November 15, 2005

  
Paul L. Rodriguez 11/17/05  
Primary Examiner  
Art Unit 2125